Vermont Bridge
Kokomo
Howard Co.
Indiana

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PHOTOGRAPHS

WRITTEN AND HISTORICAL DATA

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Historic American Engineering Record
National Park Service
Department of the Interior
Washington D.C. 20240

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HISTORIC AMERICAN ENGINEERING RECORD

Vermont Covered Bridge

HAER IN-30

Location:	Spans Kokomo Creek at west end of Deffenbaugh Street in Highland Park. UTM: 16.572740.4479990 Quad: Kokomo West
Date of Construction:	1874
Present Owner:	
Significance:	Typical example of the Smith patented truss system used extensively throughout the Midwest.
Historians:	Donald Sackheim Robert Rosenberg

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Spanning Kokomo Creek at the west end of Deffenbaugh Street in Highland Park, the Vermont Covered Bridge is a typical example of the truss system patented by Robert W. Smith and erected by Smith's company through the Midwest. The bridge, erected in 1875 near the the town of Vermont, in Howard County, Indiana, was moved to its present location in 1958. The Smith truss system used in the Vermont Bridge employs wooden structural members to produce a lightweight but rigid structure.

Robert W. Smith, the inventor of the Smith patent truss, erected several of his bridges throughout the Midwest. Born in 1833 in West Charleston, Ohio and educated at home, he received his only formal education at age 15, a six week course in geormetry at the local schoolhouse. After working as a carpenter and barn-builder, in 1867 he devised a truss which used a double set of x-bracing without the need for a tension member. Smith's design was economical, efficient, and stable and "at a time when the wood and iron Howe truss was extremely popular, Smith's bridge received a patent and temporarily reversed the trend to iron."[1]

Most often the Smith Bridge Company erected its own bridges, although occasionally a close associate might contract to build a bridge if it were outside the Midwest. The components were generally prefabricated in the company yards and shipped to a prepared site. If the site or transportation costs made this impossible provisions could be made to use local timbers. Standard charges for a complete bridge erected by the Smith Company were:[2]

100 feet	$16.00 per foot
125 feet	$18.00 per foot
150 feet	$20.00 per foot
200 feet	$24.00 per foot

Although construction costs were frequently adjusted to market conditions and the exigencies of competitive bidding, $1.00 to $1.25 per foot remained a standard royalty fee for the use of Smith's patented design.

The Structure

The Vermont Bridge is a series of 11 bays, or panels, composed of diagonals and counter-braces varying in size from 6" to 1 x 7 ", which resemble an X. The X-shaped diagonals and counterbraces are bolted to the three 6 x 10 members which form the top cord and three 6 x 12 members which form the bottom cord. The overall length of the bridge is 110' 7" with a clear span of 94'6". The height from roadbed to peak is 17' 9".

Vermont Covered Bridge

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Comp, T. Allan and Jackson, Donald. "Bridge Truss Types: A Guide to Dating and Identifying." History News, May 1977. Technical Leaflet No. 95.

Notes

1 Allen, Richard Sanders, Covered Bridges of the Middle West, p. 21.

2 Sanders, p. 23.